A Study of the Reaction of Individual Milk Producers of Four Ohio Markets from 1930 to 1933 to Types of Buying Plans in Use

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INTRODUCTION

The purpose of this study was to determine, by information directly from the producers, something about their total milk sales and their reaction to buying plans in use in their particular markets. The study was conducted by questionnaire in the market areas around Columbus, Canton, Dayton, and Cincinnati. A high percentage of these questionnaires was returned filled out completely enough to represent accurately the type of producers of each area.

Basic surplus buying plans have been adopted by most of the major Ohio markets within the past several years. The purpose of these plans has been in general to even out the seasonal production and sale of milk. They are more for the purpose of preventing market shortages in the fall and large surpluses of the spring and early summer months than for controlling the total production.

The several markets have experienced different problems in the control of milk supply coming on the market. Different types of milk producers, different feed supply conditions and difference in market demands all go to make up problems of a different nature in each market.

Through the questionnaire, on which this study is based, information was obtained relative to the individual milk producer's behavior under existing conditions and their opinions on basic surplus plans.

Buying Plans of the Four Markets

A short summary of the buying plans used for the last several years in each of the above markets follows:

DAYTON

A market pool was used in the Dayton market during 1923 and 1924 and followed by a base and surplus plan from 1925 to March of 1928 without a market pool. A flat price plan was used from April 1928 to November 1930. A base and surplus plan was again put into effect in December 1930 and used by most distributors until the first of October 1931. From then to the present time the basic surplus plan has been used in conjunction with a market pool to equalize the cost of milk to the distributors according to their use of the milk.

COLUMBUS

Base and surplus plans went into effect in the Columbus market in April 1925 and have been used in this market ever since. For several years after the plan was started the producer had his choice of this plan or a flat price plan. This first base and surplus plan provided a penalty for under-production as well as the surplus price for production over base. In August 1930 it became compulsory for the producer to operate under the base and surplus plan. Two types of plans were offered - the one described before with the under base penalty and another without. Something over a year later the penalty plan was done away with entirely.

CANTON

Beginning in 1924 and operating continuously until February 1, 1931, a general market pool was operated by the Stark County Milk Producers' Association in cooperation with the distributors in the Canton territory.

From February 1, 1932 to April 1, 1933, a basic surplus plan was used in the Canton market. The basic surplus plan was dropped on April 1, 1933 and a general market pool was then used in the market until October 1, 1934. At this time a basic surplus plan was adopted along with a modified pooling plan. Only base milk is pooled - surplus milk or milk over base does not figure in the pool.

CINCINNATI

In the Cincinnati market the basic surplus plan was first attempted in 1918. The plan only applied to May, June, July, August, and September. The base period used was November and December of 1917, and January and February of 1918. This same type of production control was used until 1926. The months used for setting the base and the months to which the base applied were changed from year to year during this period.

In 1930 basic surplus plans were again brought into use in the market. Different types of plans were used by the different associations for the following years until the basic surplus plan adopted by the market under the order of the Ohio Milk Marketing Commission became effective in September 1933. The plan put into effect at that time is still in force at the time of this writing.

TABLE I

TOTAL NUMBER OF COWS AND NUMBER PER FARM AS REPORTED BY A SAMPLE OF MILK PRODUCERS OF FOUR OHIO MARKET AREAS FOR 1930, 1932, AND 1933.

	COLUMBUS	CANTON	DAYTON	CINCINNATI	TOTAL
			ALL REPORTS		
1933					
Number of Cows	2183	1142	1320	2242	6887
Number of Farms	203	123	180	267	773
Cows per farm	10.75	9.28	7.33	8.40	8.91
1932					
Number of Cows	2152	1129	1327	2273	6881
Number of Farms	200	121	178	261	760
Cows per Farm	10.76	9.33	7.46	8.71	9.05
1930					
Number of Cows	2161	1160	1312	2300	6933
Number of Farms	197	121	178	261	757
Cows per Farm	10.97	9.59	7.37	8.81	9.16
			REPORTS COMPLETE FOR BOTH 1930 AND 1933		
1933					
Number of Cows	2126	1112	1301	2160	6699
Number of Farms	196	121	178	259	754
Cows per Farm	10.85	9.19	7.31	8.34	8.88
1932					
Number of Cows	2099	1100	1327	2232	6758
Number of Farms	194	120	178	258	750
Cows per Farm	10.82	9.17	7.46	8.65	9.01
1930					
Number of Cows	2147	1160	1312	2290	6909
Number of Farms	196	121	178	259	754
Cows per Farm	10.95	9.59	7.37	8.84	9.16
			REPORTS WHERE NUMBER OF COWS & AMT OF MILK ARE COMPLETE FOR 1930 AND 1933		
1933					
Number of Cows	1955	1118	1209	1887	6169
Number of Farms	177	120	165	219	681
Cows per Farm	11.05	9.32	7.33	8.61	9.06
1932					
Number of Cows	1913	1094	1234	1938	6179
Number of Farms	175	118	165	218	676
Cows per Farm	10.93	9.27	7.48	8.89	9.14
1930					
Number of Cows	1955	1157	1222	1999	6333
Number of Farms	177	120	165	219	681
Cows per Farm	11.05	9.64	7.41	9.13	9.30

NUMBER OF COWS AND MILK DISPOSAL

Section 1 -

The number of cows per farm changed very little from 1930 to 1933. The reports where the number of cows were reported for both of these years indicated a slight decrease in the number per farm in 1933. These figures are presented in Table I.

The only two markets to show any appreciable decrease in the number of cows per farm were Canton and Cincinnati. The decrease for the Canton market was from 9.59 cows per farm in 1930 to 9.19 in 1933, and for the Cincinnati market from 8.84 cows in 1930 to 8.34 in 1933. For all four markets combined there was but 3% fewer cows in 1933 than in 1930. None of the four markets showed any increase in the number of cows per farm. This does not mean that there were no individual producers who increased their herds. Tables appearing later in this disucssion show that some increased while others decreased, with the net result of some fewer cows and a decided decrease in milk sales.

No very large decrease in milk production or marketings per farm could be expected as a result of this small decrease in number of cows per farm. Any important decrease in milk sales therefore was due to different feeding by producers, fewer producers selling on the market, or due to some producers disposing of part of their milk in some other way than usual.

In table II are presented some very significant data relative to milk sales and milk disposal. The latter part of the table is most important because the figures for 1930 and 1933 are comparable, as both include complete records for the same producers. A decrease of over two million pounds of milk sales and total disposal, and a decrease of over three million pounds of milk sales through regular channels, indicate definitely a decrease in production for the producers of these markets. The total decrease of milk disposal was 7% from 1930 to 1933 whereas the decrease in number of cows was but 3%.

Approximately three times as much milk was disposed of in some other way than through the regular sales channels in 1933 as in 1930. By "disposal other than through the regular sales channels" is meant milk disposed of in some other channel than to the milk dealer to whom the producer sells the bulk of his milk. The producer usually has a contract with this dealer. This tendency was especially pronounced in the Canton market where some of the producers marketed part of their surplus through Swiss cheese factories. In some markets the producers have been urged to keep part of their surplus at home, and in other markets some producers stated that they were asked to send all their milk in to market. In the Dayton market the producer's base is protected when he keeps his surplus off the market and sells it as cream - the cream sold being converted into milk equivalent to be used in caluclating the producer's base.

TABLE II

SALES AND DISPOSAL OF MILK AS REPORTED BY A SAMPLE OF MILK PRODUCERS OF FOUR MARKET AREAS FOR 1930 AND 1933.

	Columbus	Canton	Dayton	Cincinnati	Total
1933			**ALL REPORTS**		
Milk sold through Regular Channels	9,958,605	5,101,922	5,386,987	8,800,553	29,248,067
Milk Disposed of Through other Channels	346,013	815,063	280,059	460,711	1,901,846
TOTAL	10,304,618	5,916,985	5,667,046	9,261,264	31,149,913
1930					
Milk sold through Regular channels	11,168,922	6,685,724	5,828,990	10,786,340	34,469,976
Milk Disposed of Through other Channels	213,353	158,410	42,127	194,027	607,917
TOTAL	11,382,275	6,844,134	5,871,117	10,980,367	35,077,893
1933			**REPORTS COMPLETE AS TO MILK PRODUCTION**		
Milk sold through Regular Channels	9,919,744	5,061,639	5,096,818	8,356,532	28,434,733
Milk Disposed of Through other Channels	346,013	815,063	251,839	397,675	1,810,590
TOTAL	10,265,757	5,876,702	5,348,657	8,754,207	30,245,323
1930					
Milk sold through Regular Channels	10,108,112	6,629,463	5,644,821	9,480,751	31,863,147
Milk Disposed of Through other Channels	198,005	158,410	42,127	190,027	588,569
TOTAL	10,306,117	6,787,873	5,686,948	9,670,778	32,451,716
1933			**REPORTS WITH BOTH NUMBER OF COWS AND AMT. OF MILK COMPLETE**		
Milk sold through Regular Channels	9,650,936	4,988,627	4,708,081	7,689,081	27,036,725
Milk Disposed of Through other Channels	346,013	797,663	242,839	379,675	1,766,190
TOTAL	9,996,949	5,786,290	4,950,920	8,068,756	28,802,915
1930					
Milk sold through Regular Channels	9,836,704	6,527,128	5,246,445	8,717,780	30,328,057
Milk disposed of Through other Channels	198,005	158,410	42,127	175,027	573,569
TOTAL	10,034,709	6,685,538	5,288,572	8,892,807	30,901,626

TABLE III

CHANNELS THROUGH WHICH MILK WAS DISPOSED OF IN ADDITION TO REGULAR SALES CHANNELS AND AMOUNT DISPOSED OF THROUGH EACH BY A SAMPLE OF MILK PRODUCERS OF THE FOUR MARKETS FOR 1930 AND 1933.

Channel		Columbus	Canton	Dayton	Cincinnati	TOTAL
1933						
Sold as Cream	lbs.	96,671	231,141	185,540	254,327	767,679
Sold as Butter	"	---	81,300	6,000	12,500	99,800
Fed to Livestock	"	86,280	67,228	19,700	135,482	308,690
Sold to Cheese Factory	"	---	352,294	---	---	352,294
Other	"	163,062	83,100	68,819	58,402	373,383
TOTAL	"	346,013	815,063	280,059	460,711	1,901,846
Percent of all Milk		3.35	13.77	4.94	4.97	6.50
1930						
Sold as Cream	lbs.	34,150	51,250	20,950	23,000	129,350
Sold as Butter	"	4,800	5,000	---	11,800	21,600
Fed to Livestock	"	66,405	36,800	---	130,697	233,902
Sold to Cheese Factory	"	---	11,600	---	---	11,600
Other	"	107,998	53,760	21,177	28,530	211,465
TOTAL	"	213,353	158,410	42,127	194,027	607,917
Percent of all Milk		1.91	2.37	.72	1.80	1.76

Table III shows the amount of milk disposed of outside of regular sales channels, and how much was disposed of in each different way. More of this was disposed of by separating the milk and selling the cream than in any other way. Canton was the only market where cheese factories could be used as outlets. Some producers from each market were using milk to feed livestock. During 1933 Canton producers disposed of 13.77% of their milk outside of the regular channels and Cincinnati producers 4.97% while Columbus and Dayton disposed of 3.35% and 4.94% respectively, in these ways.

Milk for family use was not included in total milk disposal.

TABLE IV

AVERAGE BUTTERFAT TEST, AVERAGE SALES, AND AVERAGE TOTAL MILK DISPOSAL PER FARM AND PER COW, FOR A SAMPLE OF MILK PRODUCERS OF FOUR OHIO MARKETS, 1930 AND 1933.

(From Complete Reports Only)

		Columbus	Canton	Dayton	Cincinnati	TOTAL
1933						
Av.Sale per Farm	lbs.	54,532	41,744	28,536	35,086	39,891
Av.Sale per Cow	"	4,935	4,479	3,893	4,075	4,403
Total Milk Disposal per Cow Average#	"	5,113	5,219	4,095	4,276	4,692
Butterfat Test	%	4.47	3.76	4.20	4.07	---
1930						
Av.Sale per Farm	lbs	55,593	54,852	31,811	39,816	44,789
Av.Sale per Cow	"	5,031	5,690	4,293	4,361	4,816
Total Milk Disposal per Cow Average#	"	5,133	5,837	4,327	4,449	4,909
Butterfat Test	%	4.35	3.68	4.15	4.02	---

Unweighted Average.

The greater part of the reduction of milk disposal through all channels was due to a lower production per cow. It will be seen in table IV that the total disposal per cow decreased from 4,909 pounds in 1930 to 4,692 pounds in 1933 - a reduction of 4.4%. Family use of milk might possibly have been higher in 1933 but not nearly enough to account for the different volume of disposal per cow. Again Canton shows the greatest decrease, with 618 pounds less for total disposal per cow, which is 10.6% lower for 1933 than for 1930. Columbus had the least decrease - less than one-half of one percent.

The butterfat test given in table IV applies to the sales through regular channels, and in each of the four markets had increased slightly from 1930 to 1933. This increase in tests is probably due to two influences. Under the base and surplus plans the producers generally attempt to build up a higher testing herd, and second, some of them keep part of the surplus at home and add part of the cream from this to the milk sent in to market. In order to ascertain some of the reasons for the change of test of the individual producer's milk he was asked to state what he believed to be responsible. This question was not asked unless his test varied appreciably. These results are given in a later table.

TABLE V

PERCENTAGE INCREASE OR DECREASE IN AMOUNT OF MILK SOLD THROUGH REGULAR CHANNELS FROM 1930 TO 1933, BY PRODUCERS OF FOUR MARKETS, GROUPED BY SIZE OF HERD

MARKET	Number of Cows: Less than 6	6 - 10	11 - 15	16 - 20	Over 20	TOTAL
			TOTAL SALES			
Columbus	-22.3	- 9.9	-13.6	+ 6.1	- 2.8	- 8.5
Canton	- 1.9	-20.6	-28.7	-29.4	-33.0	-23.7
Dayton	- 1.5	- 1.8	-23.6	-21.2	-13.9	- 7.7
Cincinnati	-16.8	-18.5	- 9.7	-22.4	-27.7	-17.9
Four Markets	-10.4	-13.3	-16.7	-14.3	-15.3	-14.3
			SALES PER PRODUCER			
Columbus	- 2.9	+ .7	- 1.3	+ .8	- 2.7	+ 1.4
Canton	- 9.1	-20.6	-28.8	-29.4	-32.7	-24.3
Dayton	+ .2	- 8.8	-18.5	-21.1	-13.9	-10.3
Cincinnati	+ 9.8	- 6.5	- 9.7	-17.8	-27.7	- 6.4
Four Markets	+ 2.3	- 8.3	-11.8	-14.3	-15.3	- 8.5

Sales of milk by large producers have decreased much more from 1930 to 1933 than the sales by small producers. The sales per producer range from 2.3% increase for the producer with less than 6 cows to a decrease of 15.3% for the producers having over 20 cows. On the same basis of classifying the dairies, the total sales did not show so much difference between different size dairies. This is due to the different number of dairies in each classification from 1930 to 1933. Some producers had gone out of business, others reported for only one of the two years and some producers were not producing in 1930 but had started since that. The first half of table V shows the changes for the total number of dairies from which the information was obtained, and the second half of the table shows sales on the basis of the sales per producer.

The fact that there is a difference in the performance of producers with different size herds makes a distinct difference between markets as far as reaction to changing production is concerned. Some markets have decidedly larger dairies to deal with than other markets.

TABLE VI

NUMBER OF COWS OWNED BY 726 PRODUCERS IN 1930 AND 1933 IN FOUR OHIO MARKETS, GROUPED BY SIZE OF 1930 HERD

	Columbus		Canton		Dayton		Cincinnati		TOTAL	
	'30	'33	'30	'33	'30	'33	'30	'33	'30	'33
Less than 6 Cows										
Number of Producers	18	18	14	14	59	59	55	55	146	146
Number of Cows	79	79	60	75	248	264	221	236	608	654
6-10 Cows										
Number of Producers	95	95	72	72	94	94	138	138	399	399
Number of Cows	793	827	587	592	700	712	1052	1016	3132	3147
11-15 Cows										
Number of Producers	25	25	25	25	14	14	45	45	109	109
Number of Cows	686	654	323	279	184	177	570	521	1763	1631
16-20 Cows										
Number of Producers	21	21	9	9	6	6	14	14	50	50
Number of Cows	376	366	160	148	103	85	243	205	882	804
Over 20 Cows										
Number of Producers	9	9	1	1	3	3	9	9	22	22
Number of Cows	227	194	30	18	77	64	228	182	562	458
TOTAL										
Number of Producers	168	168	121	121	176	176	261	261	726	726
Number of Cows	2161	2120	1160	1112	1312	1302	2314	2160	6947	6694

Table VI gives a summary of the number of cows owned by 726 dairies for 1930 and 1933. The dairies were classified on the bases of the number of cows in each dairy in 1930. The number of dairies in each class, and the number of cows owned by all the dairies in each class, are shown for 1930 and 1933. The dairies with less than 6 cows showed an increase of 7.6% for all four markets combined and dairies with 6-10 cows showed an increase of only .5% in number of cows. For the next three classes there was a decrease in number of cows. The dairies of 11-15 cows decreased 7.5%, those with 16-20 cows decreased 8.8%, and those with over 20 cows decreased 18.5%. The larger dairies were therefore responsible for the entire net decrease in number of cows.

These two tables (numbers V and VI) bring out the fact that the small producer feels less able to decrease his production than the larger producer. The difference in the way the small and large producer reacts is probably due to several factors. The small producer usually produces most of the feed he uses and does not wish to sell any of it but would rather feed it. The larger producer usually buys feed and if he decreases his number of cows he will merely have to buy less feed. The smaller producer is usually less able to get along on a reduced income than is the larger producer. Another important factor is that the small producer is seldom able to see a necessity for controlling production since he is not as much interested in or is not as well acquainted with the problems of the dairyman.

Section 2 - ANALYSIS OF INDIVIDUAL PRODUCERS OPINIONS

TABLE VII

REASONS FOR CHANGES IN TEST FROM 1930 TO 1933 AS STATED BY A SAMPLE OF MILK PRODUCERS OF FOUR OHIO MARKETS, AND NUMBER STATING EACH REASON

Reason Given	Columbus		Canton		Dayton		Cincinnati		TOTAL	
	Lower Test	Higher Test	Lower Test	Higher Test	Lower Test	Higher Test	Lower Test	Higher Test	Lower Test	Higher Test
Do not know	11	13	11	16	16	16	21	16	59	61
Different cows (Better or poorer)	3	39	5	10	12	14	12	22	32	85
Change in feeding	5	10	3	3	3	6	11	10	22	29
The tester and testing	1	6	2	4	5	1	6	5	14	16
Keeping the milk from the poorer testing cows at home	--	--	--	3	--	--	--	1	--	4
Change in breed (all or part of cows)	2	16	4	8	2	13	8	25	16	62
Syphon or separate part 1933	--	3	--	--	--	--	--	2	--	5
1930	3	--	--	--	1	--	--	--	4	--
TOTAL	25	87	25	44	39	50	58	81	147	262

There were almost twice as many tests which were appreciably higher in 1933 as were appreciably lower. The net result of these changes are reflected in Table VII, in which both the lower and the higher tests attributed to each reason are given. The change in individual cows and breed of cows were the outstanding reasons given for change of tests. Surprisingly few producers stated that they were syphoning milk and no doubt this is more important that would appear from the number stating it. Only 14 producers blamed their lower test on the unfairness of testing. In all of these markets the testing has been in the hands of the associations and apparently the producers are satisfied with the way it is being handled.

In the case of many producers there was a big increase or decrease in the amount of milk they marketed since 1929 or 1930. The producer was asked to state the cause for the change where it was unusual or where he had purposely increased or decreased to any great extent. In Table VIII are given these reasons as stated by the producer. These answers were not tabulated when the change was nominal, and the fact that only 17 producers had marked increases in marketings as shown in this table does not mean that this was all the producers who increased. In fact, table X gives the reasons for increasing for 164 producers buy many of these latter had only small increases.

TABLE VIII

REASONS FOR A MARKED CHANGE IN MILK SALES DURING LAST 6 OR 7 YEARS, AS GIVEN BY A SAMPLE OF MILK PRODUCERS OF FOUR OHIO MARKETS, AND NUMBER GIVING EACH REASON

Reason	Columbus	Canton	Dayton	Cincinnati	TOTAL
Reduced on account of price (both surplus and Class I) (Lower)	8	9	6	31	54
Farming or dairying on larger scale. (Higher)	2	4	3	6	15
Farming or dairying on smaller scale. (Lower)	4	1	3	12	20
Abortion (Lower)	6	2	3	3	14
Loss of cows, cause not stated. (Lower)	4	4	8	9	25
Basic Surplus Plan. (Lower)	1	3	--	11	15
Increased to gain base. (Higher)	1	--	--	--	1
Burned out. (Lower)	1	3	1	--	5
Poor feed raising conditions (Lower)	4	3	2	4	13
Poorer market. (Lower)	1	2	--	--	3
Better market. (Higher)	--	1	--	--	1
T.B. Test, lost cows (Lower)	2	11	2	1	16
TOTAL	34	43	28	77	182

Low price of milk was the reason given most frequently for decreasing. Different troubles causing loss of cows also was a big factor causing large decreases in marketings. Most of the large increases were the result of the producer moving onto a larger farm or farming more land and increasing his herd accordingly. The purpose of this question was to determine anything outside the producer's control, or any radical change in farm operation by the producer which caused a big decrease, or to find more specifically the cause of a very large increase.

TABLE IX

REASON FOR DECREASING MILK PRODUCTION SINCE 1929 AS GIVEN BY A SAMPLE OF MILK PRODUCERS OF FOUR OHIO MARKETS, AND NUMBER STATING EACH REASON

Reason	Columbus	Canton	Dayton	Cincinnati	TOTAL
Low price of milk and unfavorable milk-feed ratio	30	29	29	72	160
Low base and low price of surplus	15	6	5	24	50
Because of Amt. of surplus and request of association	3	12	6	3	24
Feed and pasture shortage	5	11	2	6	24
Herd running down, herd trouble and misfortune	23	12	19	22	76
No profit in milk production	2	4	2	15	23
Partnership dissolved	2	--	--	1	3
Quitting milk production	3	--	--	9	12
No market	2	2	--	4	8
Too much work or less help	5	1	2	6	14
Operating smaller farm	2	--	2	3	7
TOTAL	92	77	67	165	401

TABLE X

REASON FOR INCREASING MILK PRODUCTION SINCE 1929 AS GIVEN BY A SAMPLE OF MILK PRODUCERS OF FOUR OHIO MARKETS, AND NUMBER STATING EACH REASON

Reason	Columbus	Canton	Dayton	Cincinnati	TOTAL
More milk needed for same income	11	2	10	3	26
To increase income	7	1	4	9	21
Building up size of herd	18	10	12	14	54
Better cows	6	1	6	6	19
Larger farm or farming more land	3	2	6	2	13
Better feeding or more feed	--	1	7	3	11
More help on farm	3	--	3	2	8
Best income producer on farm	--	2	5	2	9
Asked by Distributor to produce more milk	--	--	1	2	3
TOTAL	47	20	54	43	164

Not all questionnaires contained answers to the question- "If you have decreased your milk production since 1929 what was the reason for it?". Some gave two reasons for decreasing production but the majority gave just that one reason which applied most importantly in their case. These reasons as given are not distinctly different in all cases, but rather than obscure some very interesting answers they have not been combined except where the meanings were obviously the same. These comments also apply to the question concerning increases in production.

The reason given most frequently for reducing production was that of low price for milk and poor milk-feed ratio. These answers accounted for 40% of the total.

OHIO MILK FEED RATIO (a) - 1921 TO DATE

YEAR	RATIO
1921	162
1922	135
1923	143
1924	132
1925	134
1926	159
1927	149
1928	128
1929	139
1930	131
1931	140
1932	150
1933	119
1934	

MONTH		
Jan.	124	
Feb.	122	
Mar.	120	
Apr.	126	
May	124	The average for the
June	110	first 10 months of
July	108	1934 was 112.
Aug.	91	
Sept.	98	
Oct.	96	

(a) Pounds of feed which 100 pounds of milk will buy. Published by the Department of Rural Economics of The Ohio State University.

During part of the period covered by this study the milk-feed ratio for Ohio was as good as the 10 year average of 1921-1930. However the price had gone so low that the amount received for milk above feed costs was so small that labor and investment had little, if any reward. This is the factor which in the long run determined the profit in production.

Reasons most frequently given for increasing production are necessarily similar since the object of increasing production is to increase income, or to fit into a larger farm operating program. However some gave such reasons as "better cows", or "better feeding", and all of these reasons were kept separate even though the reasons are basically the same.

One very striking fact brought out here is the entirely different attitudes taken by different producers under the same price conditions. The very factor - low price - causing some producers to decrease milk production, caused other producers to increase in order to get the same amount of income. Ordinarily it could be expected that producers would decrease production under low prices. Two factors are responsible for an increase rather than a decrease in production and sales under circumstances prevailing since about 1930. First the prices of other products were not high enough to pay a dairyman to shift to other lines where in most cases he would be less efficient than in dairying; Secondly, there are many dairymen who are heavily in debt and who must have a certain fixed income to meet their obligations. It is imperative, for these producers who have fixed obligations to meet, to produce more when prices are falling in order to have enough income to meet these obligations. From the standpoint of all producers this is a detriment rather than a help but is about the only solution for the individual producer. It matters little whether or not this individual producer is a thinking man and realizes that he is only aggravating the situation of producers as a group by increasing his production. It is a matter of self-preservation to him.

TABLE XI

REASONS FOR CHANGING FROM ONE DEALER TO ANOTHER, AS GIVEN BY THOSE MILK PRODUCERS MAKING SUCH A CHANGE, AND NUMBER STATING EACH REASON

Reason	Columbus	Canton	Dayton	Cincinnati	TOTAL
Rerouting of Haulers	--	6	25	--	31
Dissatisfied with dealer-price, sanitary requirements, etc.	28	1	11	27	67
Dropped by dealer	13	--	1	3	17
Shifted by Ass'n. to where milk was most needed.	6	16	5	--	27
Inability of dealer to pay for milk, and failure of dealer.	2	3	1	2	8
Miscellaneous	2	4	4	11	21
TOTAL	51	30	47	43	171

Producers who had shifted from one dealer to another in the last few years were asked to give their reason for changing. The reason for more changes than any other one thing was the dissatisfaction with the dealer. Most of the other changes were not due to the wish of the producer to shift, but because of rerouting or need of his milk somewhere else.

TABLE XII

METHODS USED TO CONTROL AMOUNT OF FLUID MILK MARKETED TO ADJUST TO BASE AND SURPLUS PLAN OF SELLING AND NUMBER REPORTING EACH METHOD

Method Used	Columbus	Canton	Dayton	Cincinnati	TOTAL
Control of Lactation period by breeding	79	18	65	73	235
By controlling number of cows and by changing to cows of different breed	14	10	5	22	51
By feeding practices	17	8	4	12	41
Make butter or sell cream out of surplus	11	19	23	54	107
Feed surplus to livestock	14	17	12	32	75
Send base to regular sales outlet and surplus to other plants	--	16	--	2	18
Various home use of surplus	4	7	4	11	26
Syphon or separate and sell cream in the milk	17	--	7	--	24
No attempt to control	13	4	15	13	45
Send all milk (not stated if production control is attempted)	12	8	25	22	67
TOTAL	181	107	160	241	689

When a market is operating under a base and surplus plan it is very important for the individual producer to make adjustments in his production program to meet the plan as far as practicable. The difference in prices usually quoted between base milk and surplus milk makes it very desirable to have a high base. This spread between base and surplus price had been unusually wide during the period of this study. The point to which the producer will go in order to get a larger percent of his sales in base is determined by how far it is profitable to change production.

The larger producers are usually in better position to adjust production than the small producer with only 5 or 6 cows. Some producers go to the extent of buying cows for fall production to raise their base, and then sell these cows after the base setting period is past. This method becomes expensive if many producers attempt it at the same time, as cows will be high priced when the producers wish to buy and low when they wish to sell. Many small producers claim this is the only way for them to get a good base, because a breeding program is almost impossible for them. For this reason the percentage of small producers in favor of basic surplus plans was less than the percentage of large producers who were favorable to this type of plan. Also more small producers reported no attempt at control of production. The methods used in attempting to control production are given in table XII.

Two general types of adjustment were used. First those methods of controlling the production and second the different ways of utilizing surplus to the best advantage when control was not feasible. There were 327 producers who reported the control methods of different kinds, and 250 who attempted to use the surplus in some other way than to be sold as surplus through the regular sales channels for fluid milk to distributors. The method most frequently used in controlling production was by control through breeding. This was reported by 235 producers.

TABLE XIII

ATTITUDE OF PRODUCERS TOWARD BASIC SURPLUS PLANS AS EXPRESSED BY A SAMPLE OF MILK PRODUCERS OF FOUR OHIO MARKETS, AND NUMBER REPORTING EACH. GROUPED BY SIZE OF HERD

	Size of Herd					
Columbus	Less than 6 cows	6 - 10 cows	11 - 15 cows	16 - 20 cows	over 20 cows	TOTAL
Favorable	4	33	23	9	4	73
Unfavorable	6	35	12	3	5	61
Good if operated right	1	10	8	2	1	22
TOTAL	11	78	43	14	10	156
Canton						
Favorable	0	12	7	6	0	25
Unfavorable	5	33	11	2	0	51
Good if operated right	5	18	6	1	1	31
TOTAL	10	63	24	9	1	107
Dayton						
Favorable	4	14	4	2	1	25
Unfavorable	28	41	7	2	2	80
Good if operated right	12	23	5	2	0	42
TOTAL	44	78	16	6	3	147
Cincinnati						
Favorable	14	39	14	4	8	79
Unfavorable	17	37	15	5	0	74
Good if operated right	7	17	7	1	0	32
TOTAL	38	93	36	10	8	185
Total						
Favorable	22	98	48	21	13	202
Unfavorable	56	146	45	12	7	266
Good if operated right	25	68	26	6	2	127
TOTAL	103	312	119	39	22	595

That the basic surplus plan has different effects on different producers is brought out very plainly by the number who are favorable to the plan, and the number who are unfavorable. There were 202 producers who were definitely in favor of the base and surplus plans while 127 producers thought the principle of the base and surplus plan was sound but thought it was not operated the way it should be. Two hundred sixty-six producers were definitely against this type of plan. A majority of the producers of the Columbus and Cincinnati markets were in favor of the plan but the producers of Canton and Dayton were more against these plans than for them.

Small producers are much less in favor of the base and surplus plan than the larger producers. The small producer claims it is more difficult for him to make the necessary adjustments than it is for the man with a large number of cows. The small producer does not usually look at the production of milk in the same way as the large producer. With the latter it is usually a major part of his business, whereas with the former it is more often just a side line and not given as serious attention as it might be. This may account partly for the fact that so many producers of the Dayton market were unfavorable to this type of plan.

The length of time the plan has been in effect in a market is important in determining how many producers like it. The usual reaction to something new, and inability to adjust to the plan immediately causes the plans to be rather unpopular for a time after adoption.

Table XIII shows the attitudes of the producers by groups and indicates a definite difference of attitudes between the small and large producer. This tendency is shown in each market as well as in total for the four markets.

The outstanding objection to the base and surplus plan by the individual producers is naturally that they do not have enough of their milk in base classification. There is also much objection to having part of their established base classified as surplus. This is necessary in a market when the total established bases are higher than the sales of fluid milk and cream unless the price of base milk is lowered.

A few producers expressed their opinion that basic surplus plans were undesirable because they were misleading to the consumer. The consumer might see only the base price and have the wrong impression about what the producer receives. Many producers also firmly believe that the price under a flat price plan would be the same as the base price under a basic surplus plan.

Some of the objections to the basic surplus plan voiced by the individual producer - with no attempt to analyze them with respect to their soundness - are as follows:

1. The basic surplus plan keeps some producers out of a market.
2. The plan is designed more for the dealer than for the producer.
3. Not allowed enough freedom in disposing of surplus.
4. Misfortune with herd not given enough consideration.
5. Encourages total production due to efforts to raise base.

One of the first reactions of many producers under base and surplus plans is to produce and sell higher testing milk. This is especially true when the butterfat differential is much above the value of the butterfat for manufacturing purposes. The producer is almost always much better satisfied if the price he receives for his milk is above the established base price. Rather than produce a high poundage of milk, with a large percent in surplus, some producers attempt to produce a lesser volume of high testing milk, for which he receives a higher price per hundred pounds. Whether or not this is a reasonable and profitable reaction depends largely on four factors; namely, (1) how it affects the producer's cost of production, (2) differential paid, (3) transportation charges saved, and, (4) how his next year's base will be affected.

SUMMARY

A very definite decrease in total sales of milk took place from 1930 to 1933, from the milk producers who answered the questionnaire sent to the four markets. Disposition of milk through other than regular sales channels increased in the same period and in 1933 were over three times as great as in 1930. The number of cows and number per farm also decreased but not as much as, in the case of milk sales. The sales per cow were decidedly lower - very likely due to the very low price of milk which made it unprofitable to attempt heavy production.

It is apparent from the information as to number of cows on the farms in this identical sample, from 1930 to 1933, that the increase in milk cow numbers in the past few years has been mostly from producers just starting in milk production or, small producers increasing their herds. The larger producers, or those well established in the business of milk production, have not been responsible for any increase in number of dairy cattle. Very few milk producers with herds of over 10 cows increased their herds from 1930 to 1933. The net decrease for these producers was 9.8%.

The responsibility for not meeting the lessened demand for milk during the depression with a lessened supply seems to be with the small producers and new producers coming into the market. The percentage decrease in sales by the larger producers of this sample for the years from 1930 to 1933 was somewhere near in line with the decrease in retail sales in most Ohio markets.

The greatest reduction in farm sales reported on these questionnaires occurred in the Canton market. The basic surplus plan in this market was discontinued on April 1, 1933 and therefore could not have been the entire cause of the reduction in sales of this year. For the Columbus market, where a basic surplus plan has been used for over 9 years in some form, the reduction in sales of milk was small. It is possible however, that any reduction which might be expected as a result of basic surplus plans will result in the first year or so after the plans are put into use. The reduction in sales in the Dayton and Cincinnati markets was also relatively small as compared to the Canton reduction. The Columbus, Dayton, and Cincinnati markets have all had more experience with the basic surplus plans than Canton. This type of plan would therefore seem to be designed more to even out the seasonal production and sales than to actually reduce them. It would seem that if basic surplus plans are expected to be a production control measure they should be so designed as to limit production when it is desirable, from a market standpoint, to have less milk in the market.

A definite relationship was found to exist between the size of producers and their attitude toward basic surplus plans. The large producers, generally having more interest in dairying than the smaller producer, are more interested in seeing some type of production control used. Most small producers look on the basic surplus plans as a lot of trouble and of more harm than benefit to them. There were however many staunch friends of basic surplus plans among small producers, and some large producers who were not satisfied with them. In one market, where the producers have very small herds, the attitude of a large majority of the producers was against basic surplus plans.

It must be remembered that the data given in this study are based on answers from identical samples for 1930 and 1933. The picture within any one of these markets as a whole may be somewhat different than for the smaple used since the number of shippers within each market for these two years was probably different. The importance of what a buying plan does is what it will do to the individual producer of milk or to the same group of producers. The fact that a market may take on more producers or lay some off can in no way be credited to or blamed on the basic surplus plan. It would seem then, that the basic surplus plan should be analyzed from its effect on the individual producer, both from the standpoint of the effect on his seasonal sales and his total years sales, or disposition, of milk.